

Appendix C

Correlated PM₁₀ Concentrations and Winds

The following graphs illustrate the direct correlation between wind speeds¹ and PM₁₀ concentrations at select monitoring sites within the Salton Sea Air Basin on August 19 and August 21, 2016. Note a variety of instruments measure wind speed at different times during any given hour. Therefore, the following graphs reflect the hour of the wind measurement.

The appendix contains two distinct sections that address two separate days. The information contain in pages 180 through 186 relate to August 19, 2016 while pages 187 through 193 relate to August 21, 2016.

IMPERIAL COUNTY SITES (Figures C-1 to C-5)

**FIGURE C-1
BRAWLEY
PM₁₀ CONCENTRATION & WIND SPEED CORRELATION**

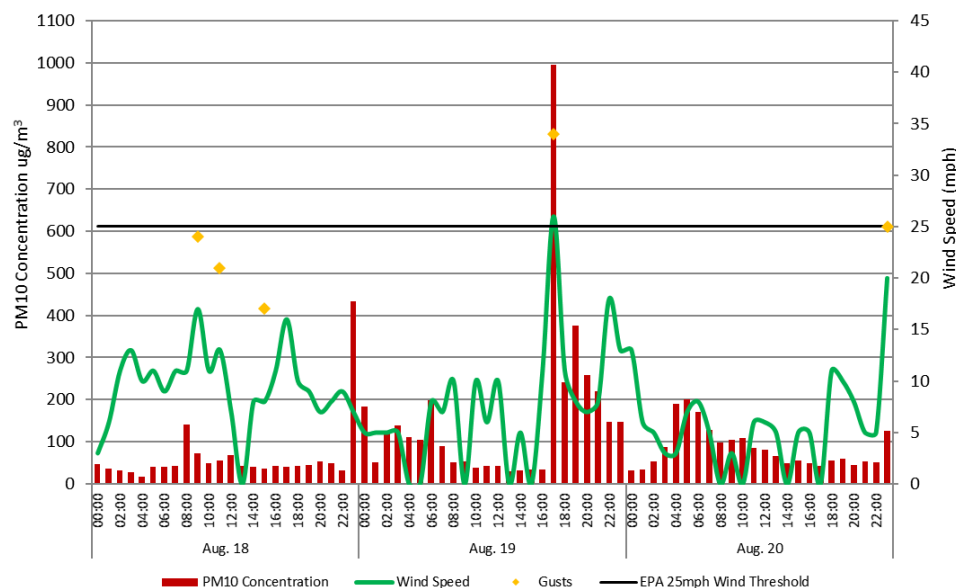


Fig. C-1: Fluctuations in hourly concentrations over 72 hours show a positive correlation with wind speeds, and particularly gusts, at Imperial County Airport (KIPL). Brawley station does not measure wind. Air quality data from the EPA’s AQS data bank. Wind data from the NCEI’s QCLCD system. Note that winds and gusts in Fig. C-1 differ in appearance from Figure B-2 due to the use of multiple readings during the 1700 hour in Fig. B-2. C-1 does not include the multiple readings due to the difficulty in balancing out the hourly PM₁₀ readings.

¹ National Weather Service; NOAA’s Glossary – Wind Speed: The rate at which air is moving horizontally past a given point. It may be a 2-minute average speed (reported as wind speed) or an instantaneous speed (reported as a peak wind speed, wind gust, or squall); <https://w1.weather.gov/glossary/index.php?letter=w>

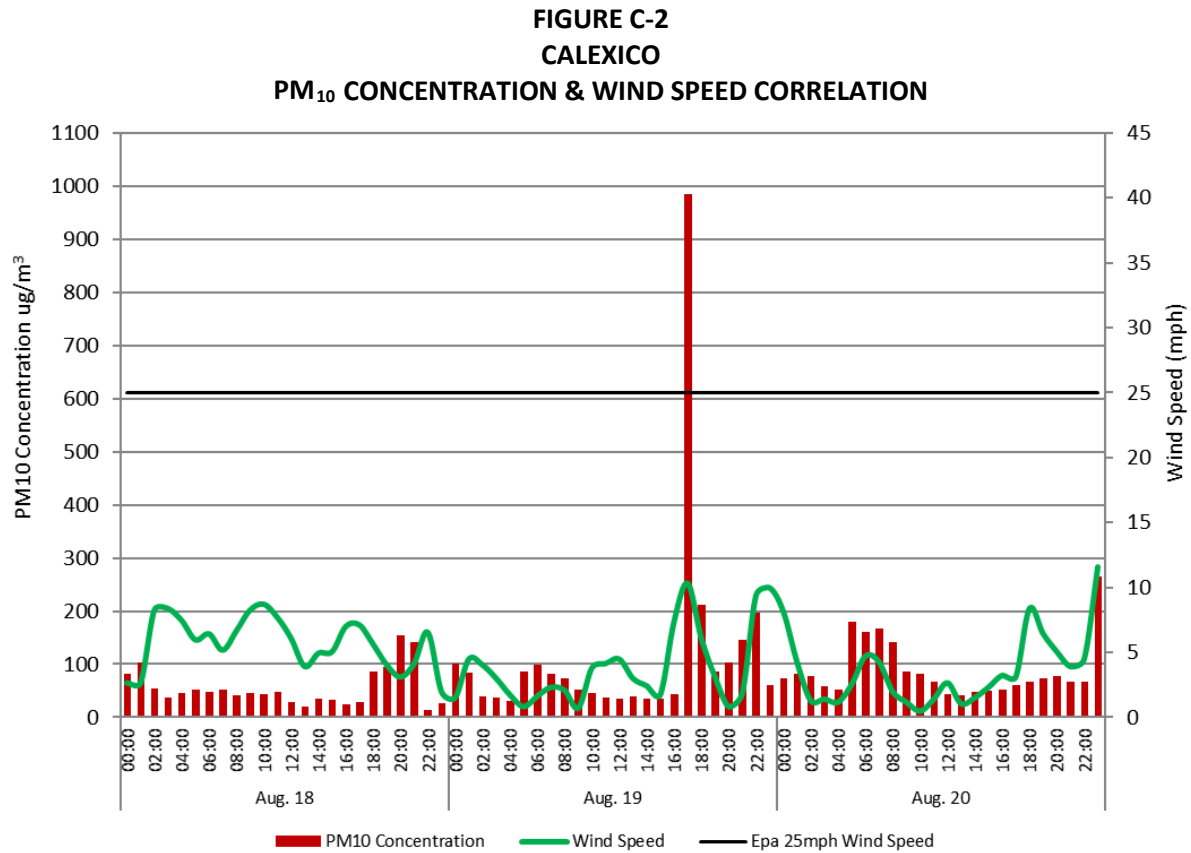


Fig. C-2: Winds at Calexico did not reach the 25 mph threshold. Air quality and wind data from the EPA's AQS data bank

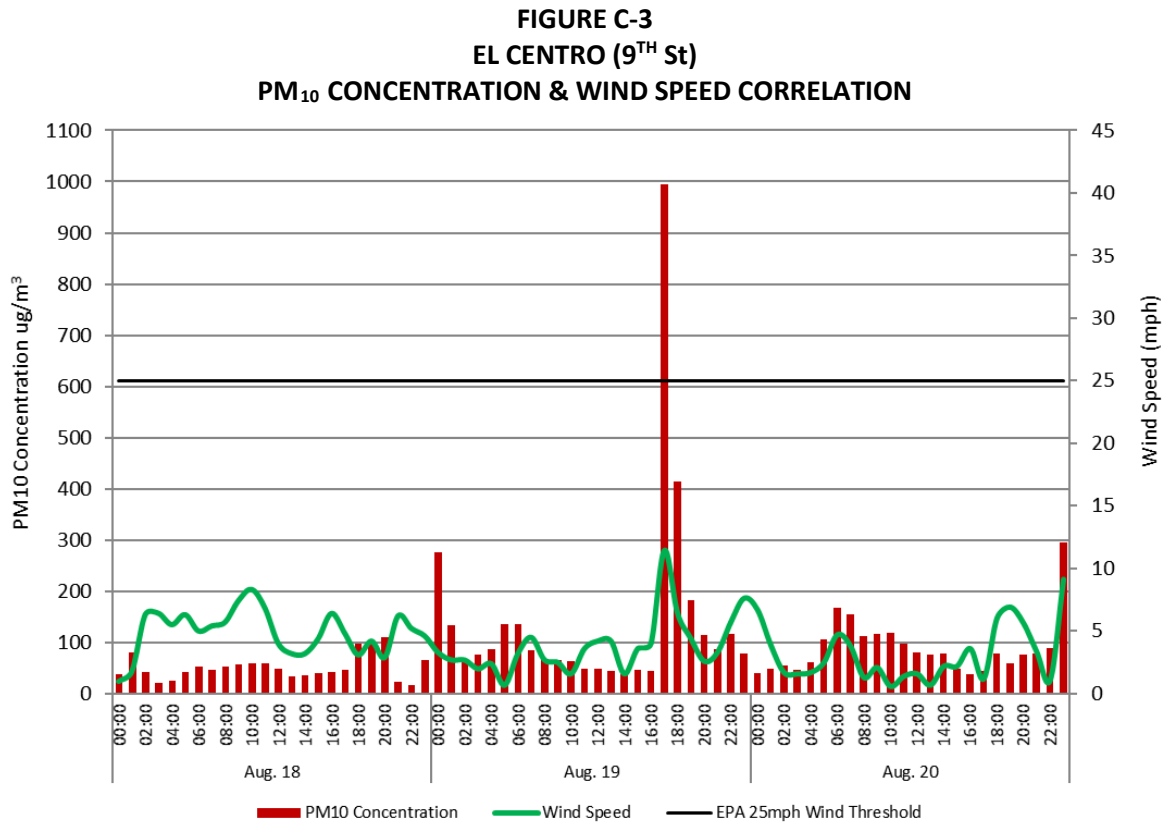


Fig. C-3: Winds at El Centro did not reach the 25 mph threshold. Air quality and wind data from the EPA's AQS data bank

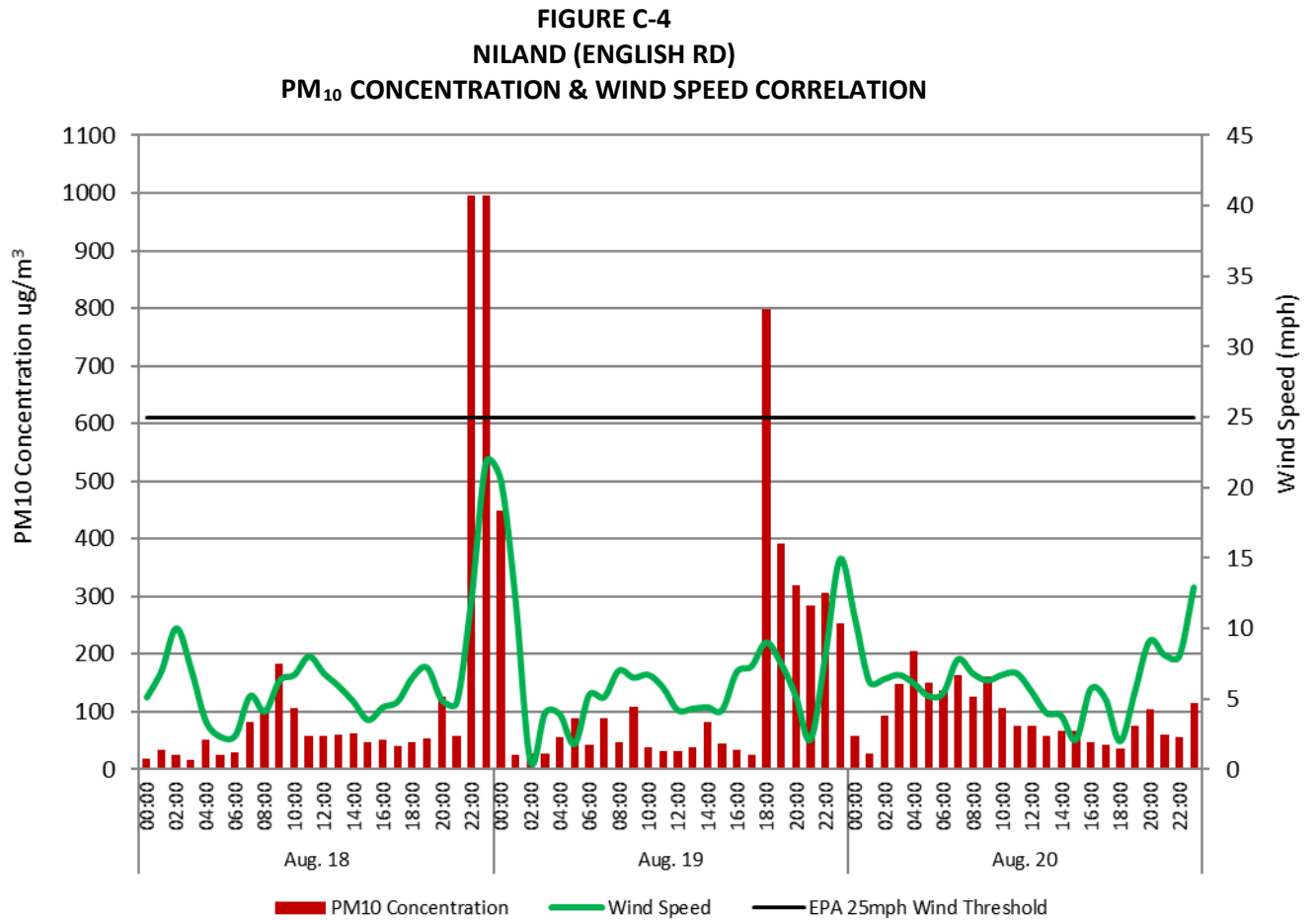


Fig. C-4: Winds at Niland (English Rd) did not reach the 25 mph threshold. However, the monitor still saw a rise in concentrations on August 18 and August 19, 2016. Air quality and wind data from the EPA's AQS data bank.

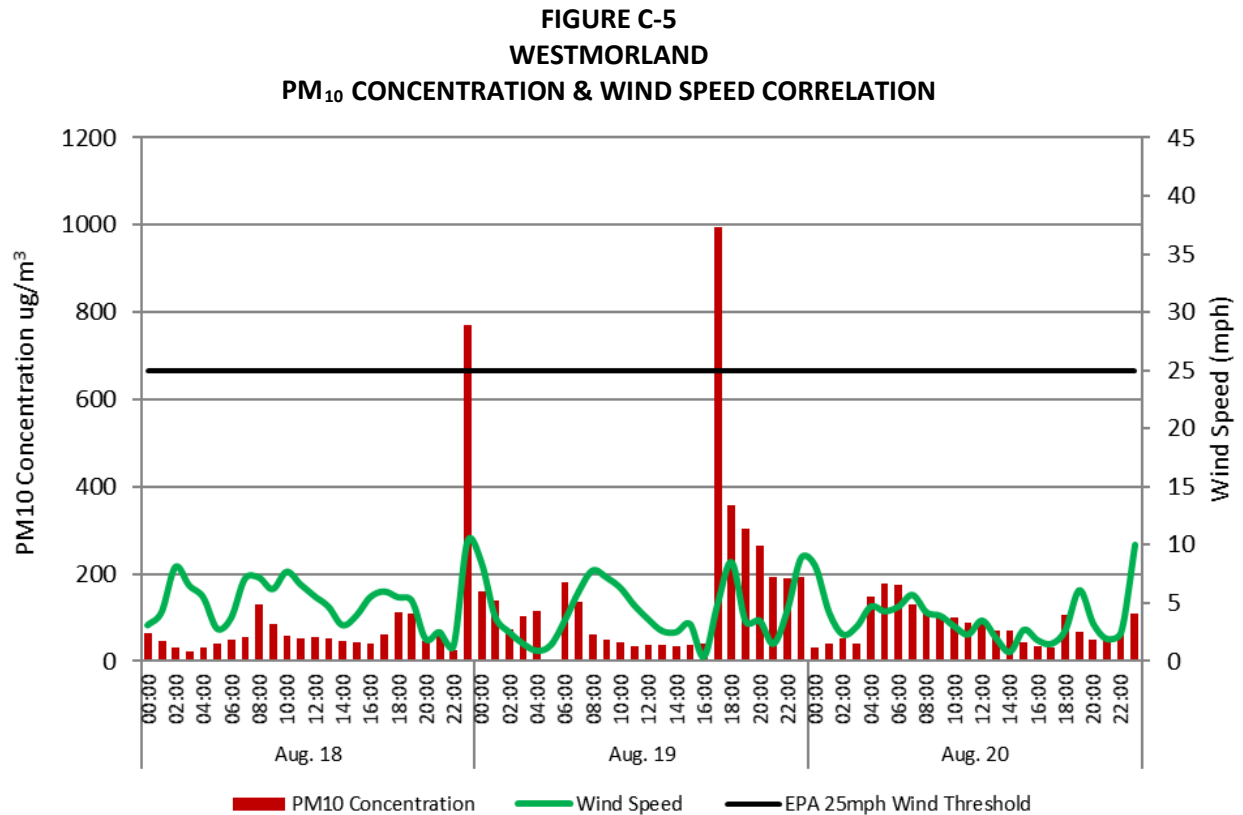


Fig. C-5: Although winds did not surpass 25 mph wt Westmorland station, higher winds upstream transported dust downstream, where lower wind speeds at the station allowed dust to be deposited. Air quality and wind data from the EPA's AQS data bank

EASTERN RIVERSIDE COUNTY SITES

FIGURE C-6
TORRES-MARTINEZ DESERT CAHUILLA INDIANS RESERVATION
PM₁₀ CONCENTRATION & WIND SPEED CORRELATION

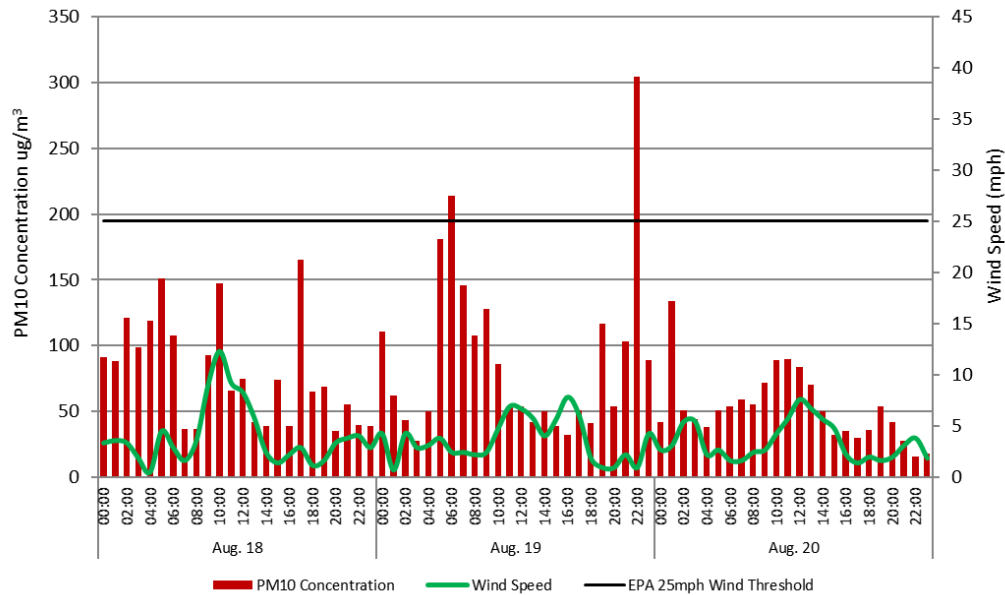


Fig. C-6: Concentrations rose in response to higher winds on August 19, 2016. Air quality and wind data from the EPA's AQS data bank.

FIGURE C-7
INDIO (JACKSON ST)
PM₁₀ CONCENTRATION & WIND SPEED CORRELATION

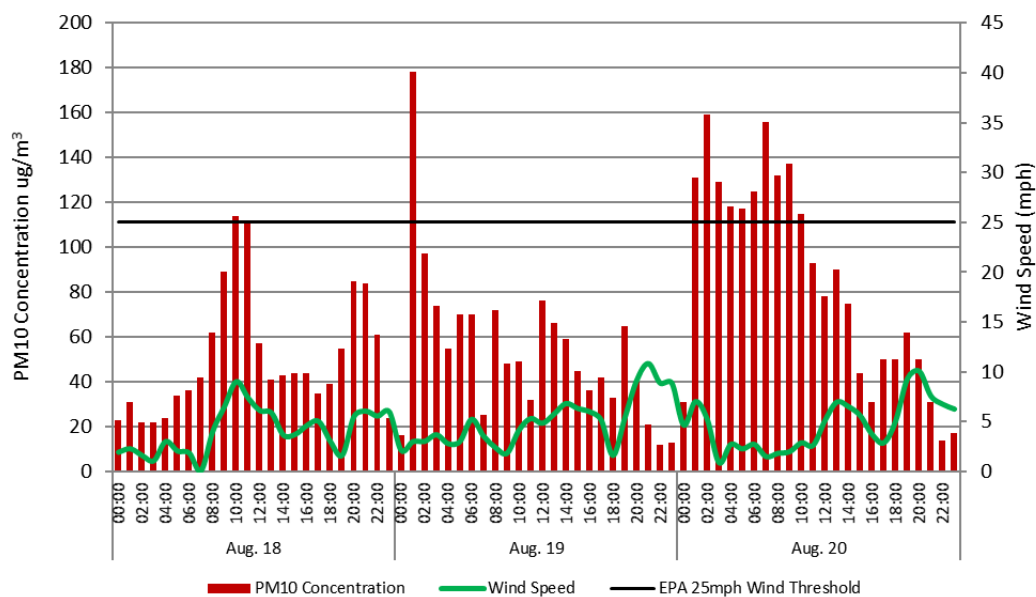
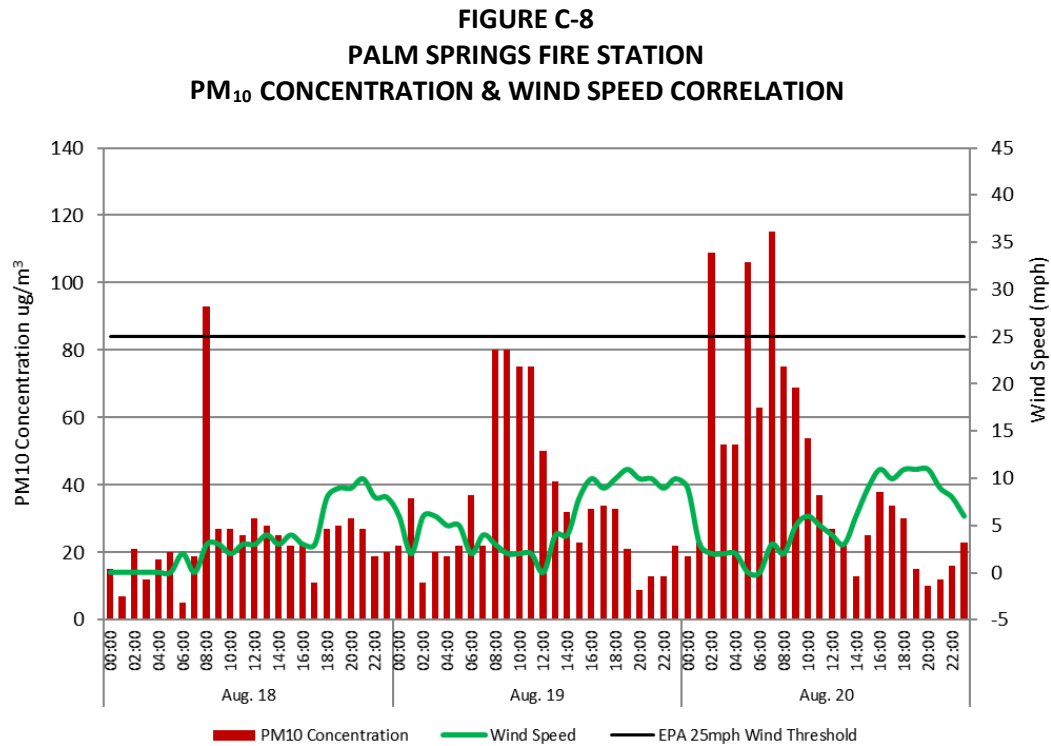


Fig. C-7: Concentrations rose in response to higher winds on August 19, 2016. Air quality and wind data from the EPA's AQS data bank.



Figs C-8: Concentrations rose in response to higher winds on August 19, 2016.
Air quality and wind data from the EPA's AQS data bank

The following information pertains to August 21, 2016

**IMPERIAL COUNTY SITES
(Figures C-9 to C-13)**

**FIGURE C-9
BRAWLEY
PM₁₀ CONCENTRATION & WIND SPEED CORRELATION**

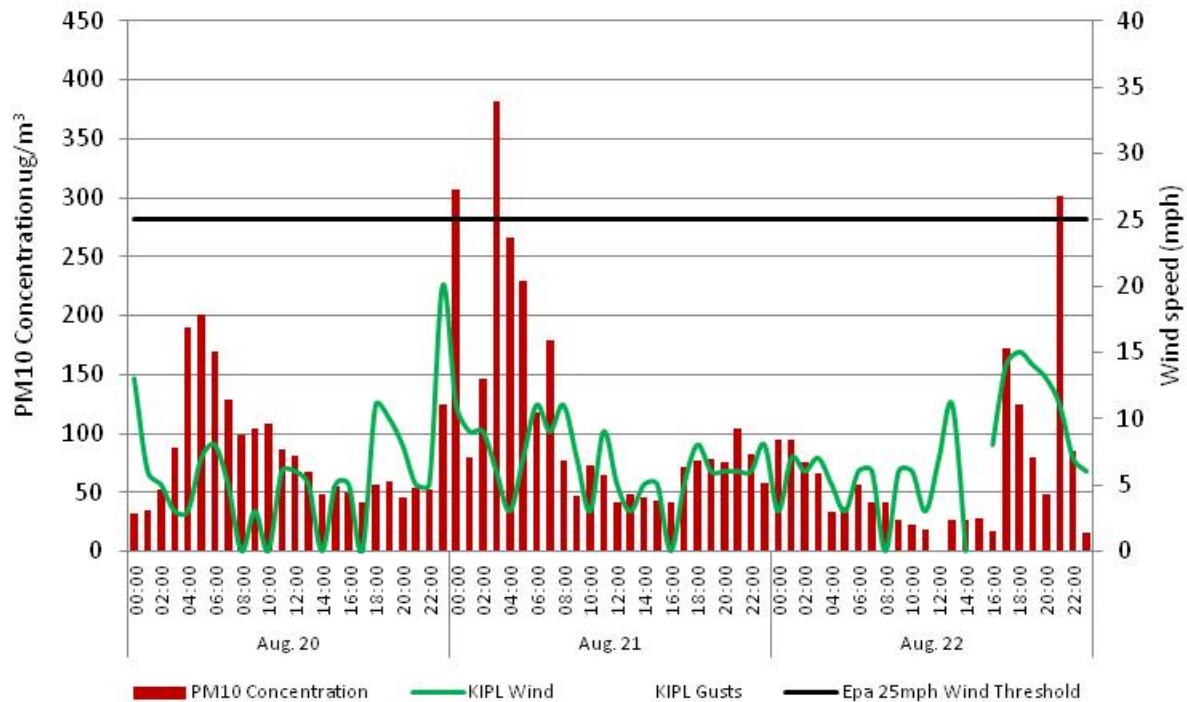


Fig. C-9: Fluctuations in hourly concentrations over 72 hours show a positive correlation with wind speeds at Imperial County Airport (KIPL). The dip in wind during peak concentrations would have allowed more dust to be deposited on the monitor. Brawley station does not measure wind. Air quality data from the EPA's AQS data bank. Wind data from the NCEI's QCLCD system.

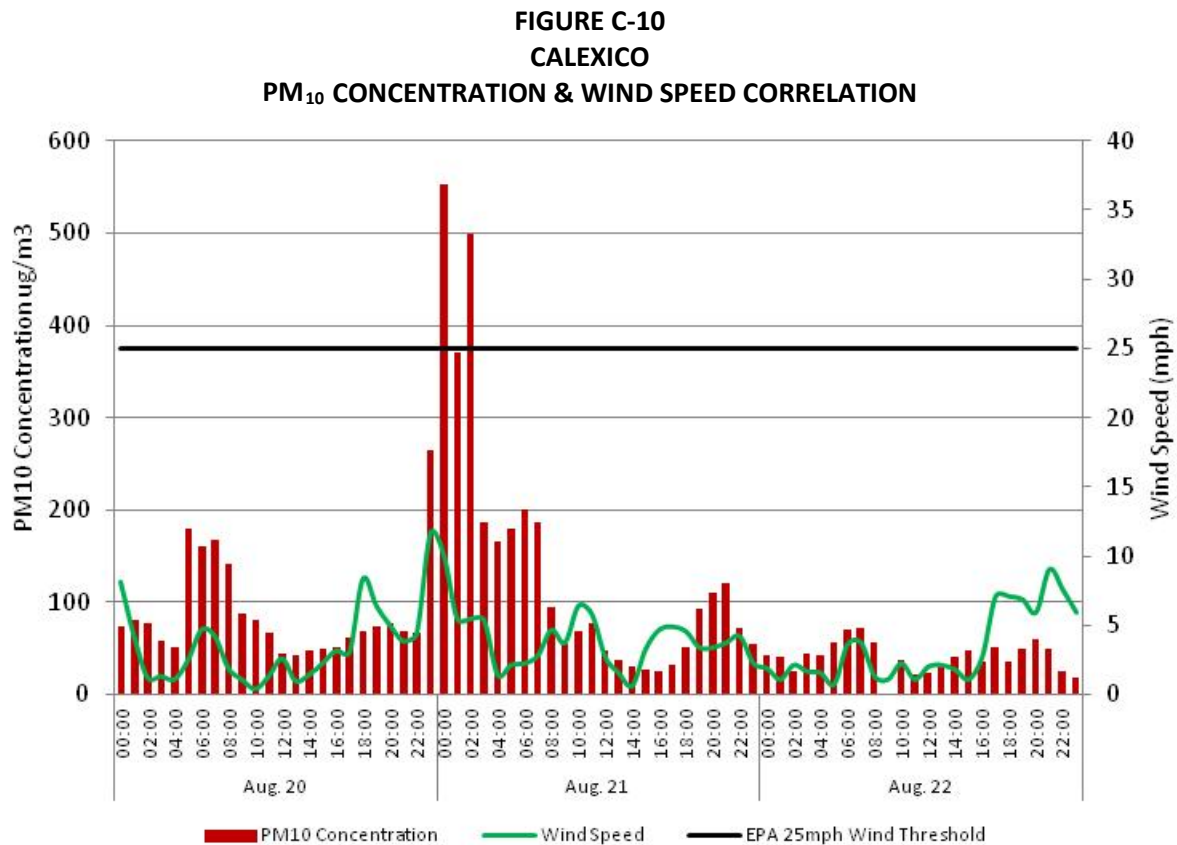


Fig. C-10: Winds at Calexico did not reach the 25 mph threshold. However, the lesser wind speeds allowed for dust to be deposited on the monitor, causing the monitor to be just under an exceedance on August 21, 2016. Air quality and wind data from the EPA's AQS data bank.

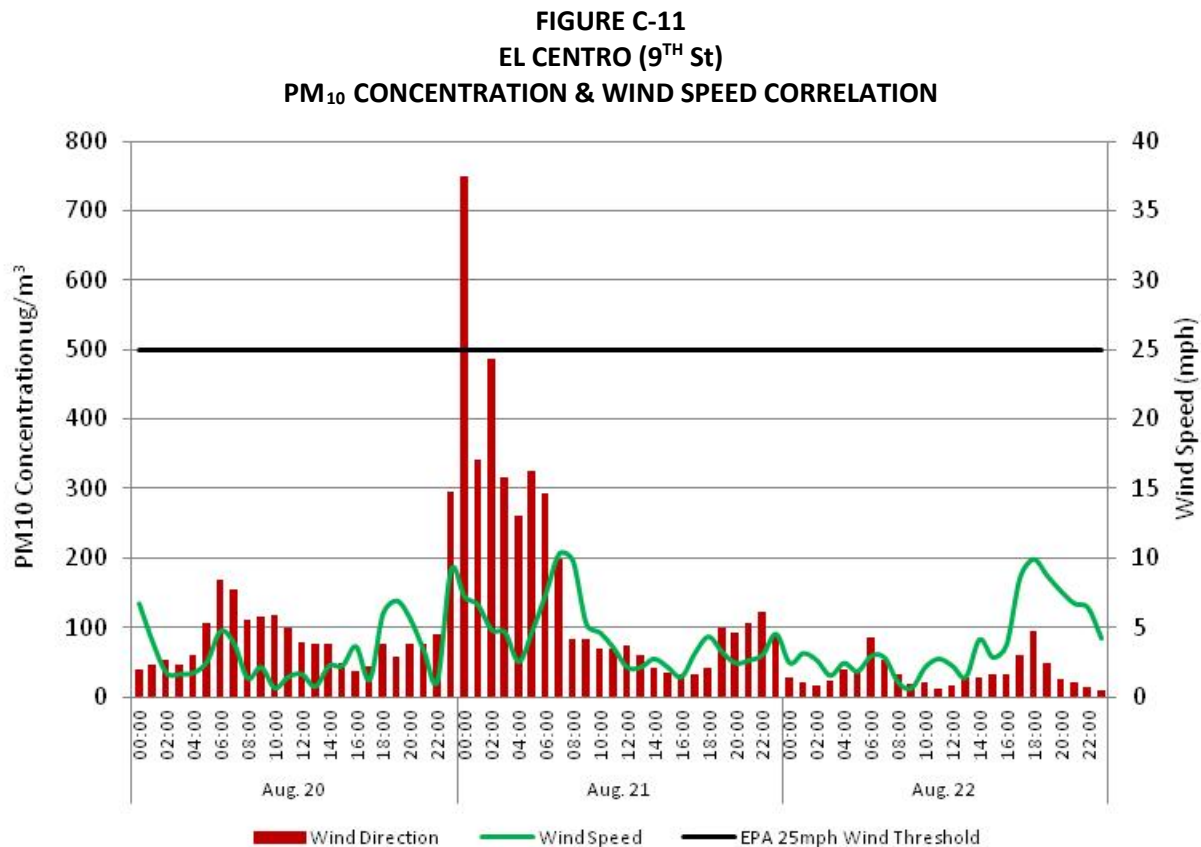


Fig. C-11: Winds at El Centro did not reach the 25 mph threshold. However, the lesser wind speeds allowed for dust to be deposited on the monitor as it was transported downstream from southwestern Arizona and northern Mexico, causing an exceedance on August 21, 2016. Air quality and wind data from the EPA's AQS data bank.

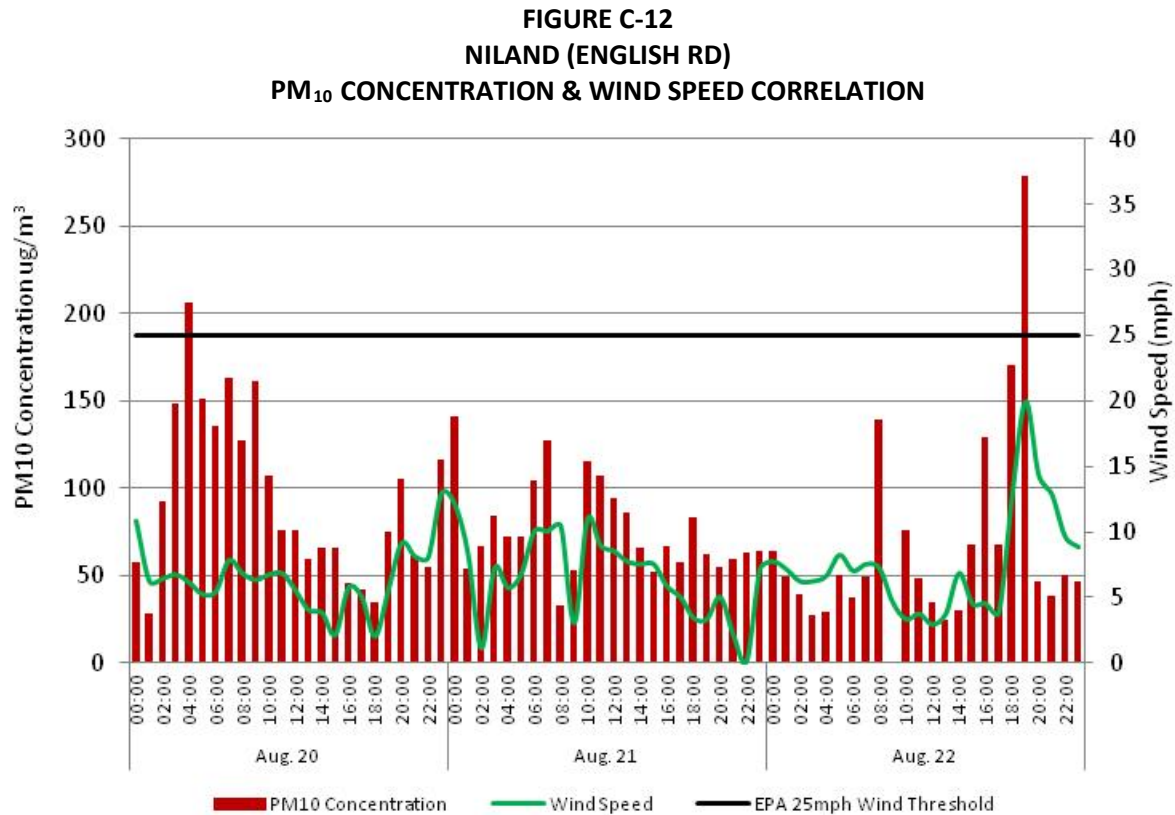


Fig. C-12: Winds at Niland (English Rd) did not reach the 25 mph threshold. However, the monitor still saw a rise in concentrations on August 21, 2016. Air quality and wind data from the EPA's AQS data bank.

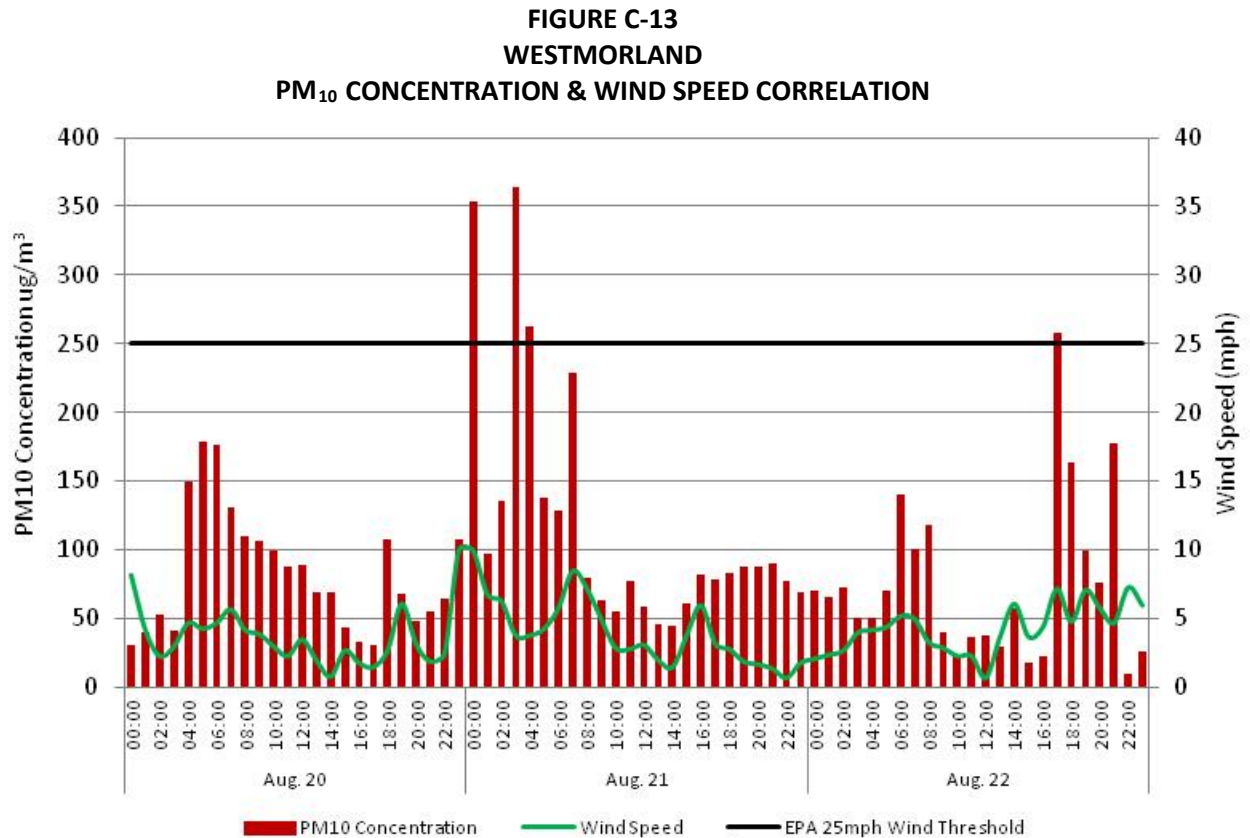


Fig. C-13: Although winds did not surpass 25 mph at Westmorland station, higher winds upstream transported dust downstream, where lower wind speeds at the station allowed dust to be deposited. Air quality and wind data from the EPA's AQS data bank.

EASTERN RIVERSIDE COUNTY SITES

FIGURE C-14
TORRES-MARTINEZ DESERT CAHUILLA INDIANS RESERVATION
PM₁₀ CONCENTRATION & WIND SPEED CORRELATION

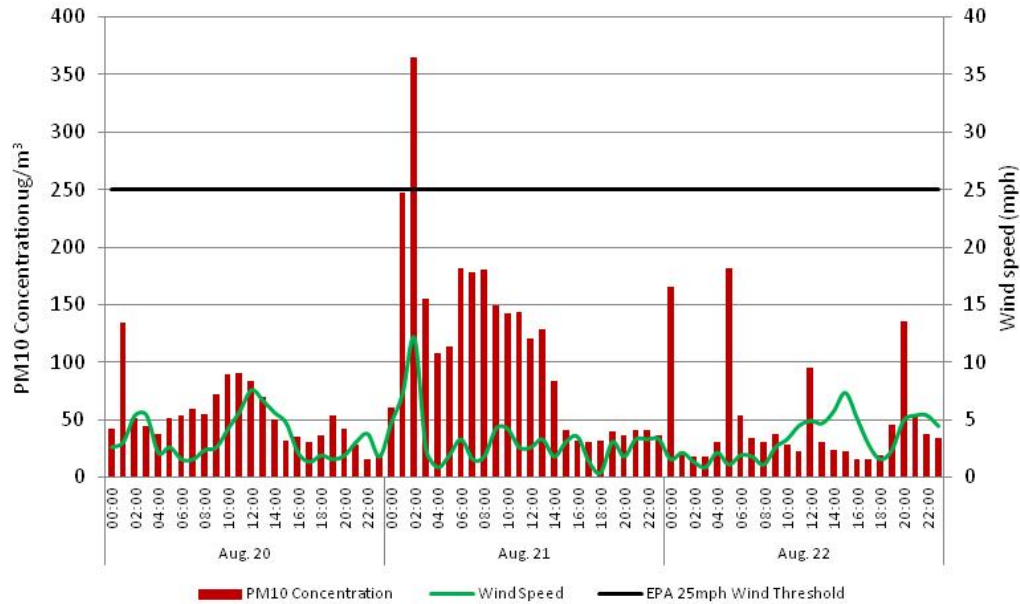


Fig. C-14: Concentrations rose in response to higher winds on August 21, 2016. Air quality and wind data from the EPA's AQS data bank.

FIGURE C-15
INDIO (JACKSON ST)
PM₁₀ CONCENTRATION & WIND SPEED CORRELATION

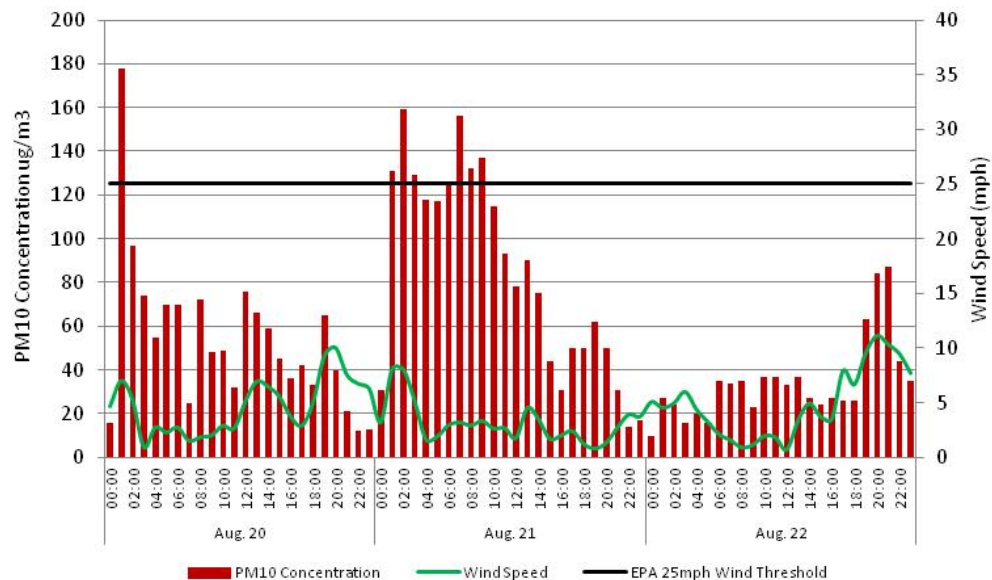
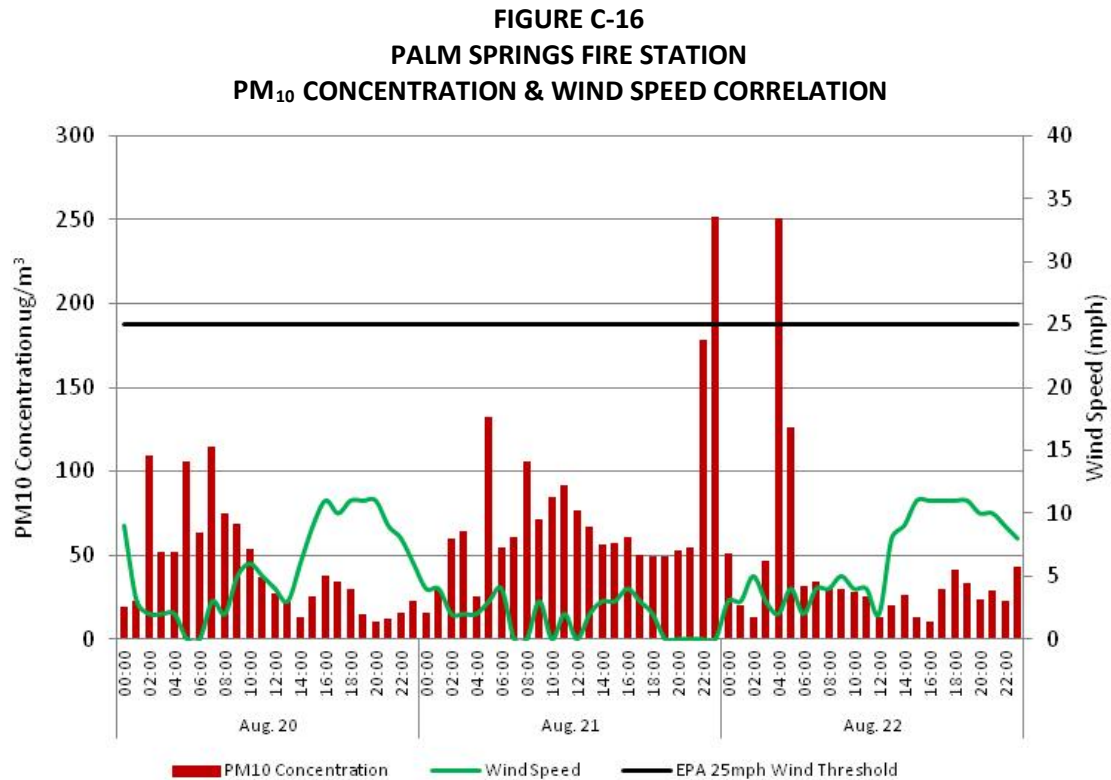


Fig. C-5: Concentrations rose in response to higher winds on August 21, 2016. Air quality and wind data from the EPA's AQS data bank.



Figs C-16: Concentrations rose in response to higher winds on August 21, 2016. Air quality and wind data from the EPA's AQS data bank.

SOUTHWESTERN ARIZONA

The Yuma Supersite in Yuma, Arizona, located upstream in the southwestern portion of Arizona, unfortunately had all data for both August 19, 2016 and August 21, 2016 coded "AN."